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PATENT CLAIMS

1. A valve connector for inflation valves of vehicle tyres where the connector consists of a housing (3, 16, 19, 35, 77, 110, 134, 151, 164, 190) which partly is connected to a pressure source, preferably a hand or foot pump, and which partly has a coupling hole (5) with a diameter corresponding to the diameter of the valve which is to be connected, where the coupling hole is equipped with a securing means to connect the valve and a sealing means for valves of varying sizes, characterized in that the sealing means (12, 13, 80, 192, 194) is positioned coaxially in the housing (3, 16, 19, 35, 77, 110, 134, 151, 164, 190) and is established on at least two parallel discrete levels having the housing (3, 16, 19, 35, 77, 110, 134, 151, 164, 190) centre line coaxial to the valve centre line (4) as its normal, where the sealing means minor diameter approximately correspond to the major diameter of the current valve size to which the coupling is connected when used that the sealing means (13, 80, 194) which is closest to the opening (8) of the coupling hole (5) in the housing (3, 16, 19, 35, 77, 110, 134, 151, 164, 190) has the largest minor diameter, whereas the sealing means (12, 79, 192, 200), farthest from the opening (8) of the coupling hole (5) in the housing (3, 16, 19, 35, 77, 110, 134, 151, 164, 190) has the smallest minor diameter, and the diameters between the extremes are in corresponding discrete distances between these extremes.
2. Valve connector according to claim 1 characterized in that the securing means is a rotatable bushing (6) placed on the housing and equipped with threads matching the various valves in the coupling hole (5) and sealed towards the housing (3, 16) with a sealing means (12) which is farthest from the housing (3, 16) coupling hole.
3. Valve connector according to claim 2 characterized in that the inner thread is provided by a bushing (193) with a 5V2 thread where the bushing (193) is embedded slightly axially sliding in a taper milling (202) in the rotational coupling bushing (191) and is coupled rotational-free to the coupling bushing (191) by means of a set of ribs (196), which are distributed around the bushing circumference (193) and which are geared into corresponding grooves (197) in the coupling bushing (191), and that the sealing means (200) is radially stepped and rests on an also stepped milling (201) in the connector housing (190).
4. Valve connector according to claim 3 characterized in that in continuation of and coaxially to the housing (19) centre line (4), there is an activating pin (21) which is fed to activate a central valve pin head in the plug (fig. 4B) via an axial shifting from a position farthest from the valve (fig. 4A).
5. Valve connector according to claim 4 characterized in that a control knob (31) integrated in the activating pin is used to control the activating pin (21).
6. Valve connector according to claim 4 characterized in that the control knob (162) is rotatably attached to the housing (164) concentric with the activating pin (161) and centrally incorporating this with feeding mechanisms which cooperate with corresponding feeding mechanisms on the activating pin (161) which is rotation-free, but slidingly attached to the housing (164) to ensure the rotation-free, axial shifting of this from an inactive position (fig. 5A) to an activating position (fig. 5B).
7. Valve connector according to claim 4 characterized in that the control knob (43) is rotatably attached to the housing (35) concentrically with the activating pin (40) and is centrally incorporating this and is having a cylinder (48), which at suitable feedings reaches out between the housing (35) and the activating pin (40), which is moveably attached to the control knob (43), which can shift in the cylinder (48) and uses feeding mechanisms (51, 52) to reach out between cylinder (48) slits (49, 50) and corresponding feeding mechanisms (67) in the housing (35) to axially shift the activating pin (40) from an inactive position (fig. 6A) to an activating position (fig. 6B).
8. Valve connector according to claim 1 characterized in that in a well-known way the securing means and the sealing means consist of a bushing placed in the housing and made of a deformable material, preferably a rubber type material, and that distally to the valve and the bushing, a piston with two extremes in order to an axially compress and release the bushing has been placed together with a lever for piston activation where the lever (81) axis (85) is extended perpendicularly to the centre line (4) through this, and that the lever (81) for piston activation is shifted from a position (82) almost parallel with the centre line (4) to a position (83) approximately perpendicular to the centre line (4) where the valve neutralizes the torque moment created by the shifting (fig. 9).
9. Valve connector according to claim 1 characterized in that the securing means and the sealing means in a well-known way consist of a bushing placed in the housing and made of a deformable material, preferably a rubber type material, and that proximally to the valve and the bushing, a piston with two

extremes to obtain an axial compression and release of the bushing has been placed together with a lever for piston activation where the lever (102) axis (85) is extended perpendicularly to the centre line (4) and excentrical with this, and that the lever (102) for piston activation is shifted from a position (82) making an angle (Ψ) with the centre line (4) to a position (83) approximately perpendicular to the centre line where a locking means works together with a corresponding locking means on the lever (102), e.g. a locking means constructed as a cross bar. (fig. 10).

10. Valve connector according to claim 9 characterized in that in continuation of and coaxially to the centre line (4) of the housing (77), an activating pin (21) is placed which through axial shifting from a position farthest from the valve (fig. 11A) is fed to activate a central valve pin head in the plug (fig. 11B), and that the lever (131) is U shaped and the free ends of the U legs are embedding the lever (131) axis (85).

11. Valve connector according to claim 10 characterized in that a control knob (31) integrated in the activating pin is used to control the activating pin.

12. Valve connector according to claim 9 characterized in that the control knob is rotatably attached to the piston (138) concentrically with the activating pin (142) and is centrally incorporating this and is having feeding mechanisms which work together with corresponding feeding mechanisms on the activating pin (142) which is shiftably attached to the piston to axially shift the activating pin from an inactive position (fig. 12A) to an activating position (fig. 12B) and that the lever (102) is U shaped and the free ends of the U legs are embedding the lever (102) axis (85).

13. Valve connector according to claims 12 characterized in that the control knob (140) is rotatably attached to the piston (138) concentrically with the activating pin (142) and is centrally incorporating this and is having a cylinder (48), which with suitable guiding means reaches in between the piston (138) and the activating pin (142) which is moveably attached to the control knob (140) and which can be moved in the cylinder (48) and reaches out with protrusions (51, 52) through slits (49, 50) in the cylinder (48) and in corresponding feeding means (67) in the piston (138) to axially shift the activating pin (142) from an inactive position (18) to an activating position (32).

14. Valve connector according to claims 8 characterized in that the housing (77) is an integrated part of the pressure source (91).

15. Valve connector according to claim 14 characterized in that the pressure source (91) is a hand pump which is a lever arm when the lever (92) is tightened.

16. Valve connector according to claim 15 characterized in that in continuation of and coaxially with the housing (151) centre line (4), an activating pin (142) is placed, which with an axial movement from a position farthest from the valve (fig. 14A) is guided to activate a central valve pin head in the plug (fig. 14B), that the control knob (140) for the activating pin (142) is rotatably attached to the piston (138) concentrically with the activating pin and centrally incorporating this and having feeding mechanisms which work together with corresponding feeding mechanisms on the activating pin (142) moveably attached to the piston (138) to ensure the axial moving of the activating pin (142) from an inactive position (18) to an activating position (32) and that the lever (152) is U-shaped where the free ends of the U legs are embedding the lever (152) axis (85).

17. Valve connector according to claim 15 characterized in that in continuation of and coaxially with the housing (151) centre line (4), an activating pin (142) is placed which at an axial shifting from a position farthest from the valve (fig. 14A) is guided to activate a central valve pin head in the plug (fig. 14B), that the control knob (140) for the activating pin (142) is rotatably attached to the piston (138) concentrically with the activating pin and centrally incorporating this and with a cylinder (48) which reaches in between the piston (138) and the activating pin (142), which has been moveably attached to the control knob (140) and which with suitable protrusions (51, 52) reaches out through slits (49, 50) in the cylinder (48) can be moved in the cylinder (48) and in the corresponding guiding mechanisms (67) in the piston (138) to axially move the activating pin (142) from an inactive position (18) to an activating position.